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Variations in Livestock Production Costs and Returns in Putnam County

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VARIATIONS IN LIVESTOCK PRODUCTION COSTS AND RETURNS IN PUTNAM COUNTY

JOHN F. DOWLER

This study is based on data collected from 23 different farms in the vicinity of Leipsic, Putnam County, Ohio, during the 3 years 1926-1928. The group of farms is typical of much of the general livestock and small-grain region of Northwestern Ohio. The complete cost-route method was used to collect these data and to aid the farmers in keeping the necessary records. Of the 23 farms in this study, 14 were included for the entire 3-year period, 6 for two years, and 3 for one year.

Fig. 1.—This study was carried on in Putnam County, in the vicinity of Leipsic

The elements entering into the cost of producing certain livestock and livestock products are herewith presented in terms of quantity where possible, with current values. The fluctuation of price per unit affects total cost, but changes in quantity are dependent upon management practices and quality of livestock. During

the period of this study, prices of grains, livestock, and livestock products were from 28 to 50 per cent higher than the pre-war prices, according to the index of the United States Department of Agriculture. In 1931 prices of the same commodities have fallen considerably below the pre-war prices. The sale prices of livestock and livestock products, during the period of this study, and the value of some of the principal grains and feeds used on the farm at that time are given in Table 1.

TABLE 1.—Values of Some of the Principal Feeds Used on These Farms and Sale Prices of Livestock and Livestock Products, 1926-1928

Item	Average	1926	1927	1928
	Dol.	*Dol.*	*Dol.*	*Dol.*
Corn, per bu.	0.75	0.65	0.75	0.85
Oats, per bu.	0.43	0.37	0.42	0.51
Barley, per bu.	0.70	0.68	0.67	0.74
Wheat, per bu.	1.38	1.44	1.26	1.45
Bran, per cwt.	2.06	1.87	1.89	2.41
Middlings, per cwt.	2.04	1.91	2.02	2.20
Tankage, per cwt.	3.50	3.37	3.69	3.44
Oilmeal, per cwt.	2.75	2.82	2.76	2.68
Cottonseed meal, per cwt.	2.42	2.59	2.11	2.55
Hog feed, per cwt.	2.90	2.54	2.88	3.28
Dairy feed, per cwt.	2.72	2.61	2.65	2.91
Poultry mash, per cwt.	3.34	3.07	3.46	3.41
Alfalfa hay, per ton.	14.45	17.29	12.14	13.93
Other hay, per ton.	8.86	10.77	7.38	8.43
Sale prices:				
Pork, per cwt.	9.58	12.30	8.43	8.68
Butterfat, per lb.	0 46	0.45	0.47	0.48
Veal calf, per cwt.	13.86	13.86	13.71	14.04
Beef, per cwt.	9.95	8.71	9.09	12.06
Lambs, per cwt.	13.01	13.37	12.28	13 ₄0
Wool, per lb.	0.40	0.37	0.37	0 47
Eggs, per doz.	0.28	0.31	0.25	0.30

In this study attention is centered on how some farmers increased the spread between cost and sales value by producing livestock and livestock products at a cost lower than the average. There are presented also the various cost items and their relative magnitude, together with suggestions on how to increase or decrease the volume of such items for a more efficient production.

TYPE OF FARMING

LIVESTOCK ENTERPRISES

The average size of farm was 140 acres, 118 of which were rotated area. Seventeen farm-year records were from farms of less than 100 acres in size; 31 were from farms of 100 to 200 acres; and 10 were from farms of 200 to 300 acres.

Of the 23 farms in this study, 15 were primarily one-man farms. But, in addition to the operator's labor, from 1 to 8 months of family and extra hired labor were used. Six of the farms had from 11 to 21 months of labor other than that of the operator and were classed as two-man farms. One had three men and 3 months of extra labor, and the other had four men with about 7 months of extra labor.

The income from the sale of livestock and livestock products formed about 70 per cent of the total farm receipts. The raising of hogs was the most important enterprise, with herds ranging in size from 1 to 14 sows and averaging 7 sows per herd. The system of raising two litters a year was generally followed. The sows were kept throughout the year and, as their productiveness diminished, they were fattened for market. There were only a few purebred registered animals on these farms.

Dairying was the second largest enterprise. One farm had a herd of 22 cows; whereas the next largest herd numbered seven. Eleven of the 23 farms had less than four cows. These herds were principally of the dairy type, and the sale of cream furnished the major receipts from this enterprise. Whole milk and some cream were sold from the herd of 22 cows.

Two farmers made a practice of buying steers for fattening, and five others purchased some steers to supplement those raised for fattening purposes. One farm raised and sold purebred Shorthorn baby beef. The other beef animals raised ranged from scrubs to high-grades.

TABLE 2.—Livestock on Farms Studied

Item	Amount of stock per farm		
	Average 23 farms	Maximum	Minimum
Hogs, hundredweight produced	155.8	379.7	31.2
Milk cows, number of head	5.7	22.1	1.9
Other cattle, animal units*	5.1	27.7	0.6
Poultry, number in adult flock	135.9	242.6	45.3
Sheep, number of ewes	6.5	22.7	0.0
Horses, number of head	4.4	9.8	2.0

*"Animal unit" is used as a measure of the amount of livestock in terms of one horse, one cow, or a feed-consuming equivalent. One bull, two heifers, or three calves are considered as an animal unit.

Flocks of sheep were kept on 9 of the 23 farms. Most of the flocks were of the fine-wool type or crosses with it. There were no flocks of wethers kept, and one farm bought lambs for fattening.

Poultry was of importance on some farms and a minor enterprise on others. Two farms kept flocks of over 200 hens; whereas seven had flocks numbering less than 100 hens each. Geese, ducks, and turkeys were of much less importance.

There was a considerable variation in the number of livestock kept, as well as in the amount of manure produced. Acres of rotated land and permanent pasture per animal unit varied from 3 acres on the highly-stocked farms to 7 acres per animal unit on the lowest-stocked farms. The amounts of manure hauled out varied from less than three loads per animal unit on one farm to nine loads on another.

CROPPING PRACTICES

With livestock enterprises yielding the greater part of the farm income, these farmers followed the practice of growing the major portion of the feed consumed by the livestock. A large portion of the grain and hay raised was used for that purpose; 91.1 per cent of the total corn harvested as grain was fed or used on the farm; 64.7 per cent of the barley was used; 55.2 per cent of the oats; 8.8 per cent of the wheat; and 80.9 per cent of the hay.

The rotation most commonly followed was corn, oats, wheat, and grass or clover. Every farm deviated from this with rotations ranging from 2 to 5 years in length, chiefly because of the planting of miscellaneous crops or failures of wheat and grass. Other crops grown were barley, sugar beets, alfalfa, and soybeans. Of the rotated area, 32 per cent was in corn, 14 per cent in oats, 11 per cent in wheat, 9 per cent in barley, 2 per cent in mixed barley and oats, 4 per cent in sugar beets, 2 per cent in soybeans, 7 per cent in alfalfa, and 19 per cent in other hay and rotated pasture[1].

SOURCES OF INCOME

Livestock on these farms furnished about 70 per cent of the gross income. Of this per cent, more than half came from the hog enterprise. The next source of income in size was dairy cattle. This income was mainly from the sale of cream, although a few farmers sold whole milk part of the time. Receipts from chickens formed the third source of livestock income. Livestock receipts were further increased on some farms by beef cattle, sheep, or other poultry.

More than two-thirds of the crop sales consisted of wheat and sugar beets; whereas corn, oats, barley, soybeans, hay, stover, and straw made up the remaining third of the entire crop sales.

[1]For further information on crops see Ohio Agricultural Experiment Station Bulletin 481, *Some Factors Causing Variations in Crop Production Costs.*

TABLE 3.—Sources of Gross Income on the 23 Farms, 1926-1928

Sources of income	Farms reporting	Average annual gross income, 23 farms	Percentage of total receipts from the different resources		
			Average 23 farms	Maximum	Minimum
	No.	*Dol.*	*Pct.*	*Pct.*	*Pct.*
Hogs*	23	1493.70	36.2	51.6	9.8
Dairy cattle*	22†	652.82	15.8	31.6	8.2
Beef cattle*	8	194.35	4.7	20.1	0.0
Sheep*	9	94.52	2.3	10.0	0.0
Chickens *	23	425.40	10.3	23.6	2.7
Other poultry*	8	16.93	0.4	2.0	0.0
Total livestock‡	23	2877.72	69.7	88.0	22.0
Total crop sales	23	1178.40	28.6	75.9	9.4
All other receipts	22	71.11	1.7	5.3	0.0
Total gross income	23	4127.23	100.0	.....	.....

*Net increase was calculated by adding sales of both animals and animal products, increase in inventory value, value of stock, etc., used by the household, and subtracting from this total the sum of livestock purchases and marketing expenses.
†One dairy farm not included in this average.
‡Other than horses.

HOG PRODUCTION COSTS

COSTS VARY WITH YEARS

The average annual cost of producing an hundred pounds of pork varied during the years 1926 to 1928, inclusive, from $8.68 to $9.06. This was due mainly to the variation in the price of feed. As the price of corn increased, the feed cost of producing pork increased. However, the lowest total cost of pork production did not occur in the same year as the lowest feed cost, because at that time other costs were high.

TABLE 4.—Pork: Variations in Cost of Production, by Years, Compared with Price of Corn, 1926-1928

Item	Average	1926	1927	1928
Number of farm records	57*	20	20	17
Price of corn per bushel, dollar	0.66	0.60	0.65	0.75
Cost of pork per 100 pounds:				
Feed	6.16	5.88	6.02	6.55
Pasture	0.33	0.37	0.34	0.28
Other costs	2.40	2.72	2.32	2.23
Total cost	8.89	8.97	8.68	9.06

*Total for the 3 years.

SOWS AND LITTERS

Large litters reduce cost.—The number of pigs in a litter had a decided influence in several ways on the cost of producing pork. When the farms were grouped according to the number of pigs per

litter saved at weaning time, the high group saved, on an average, 2.6 more pigs than the low group. Under these conditions, the annual cost per sow, including pigs up to weaning, was $10.25 more with the high group than with the low, as given in Table 5. The total cost of large litters was greater, but the cost per pig weaned was $1.00 less than in small litters.

TABLE 5.—The Effect of Size of Litters on Cost of Weanling Pigs, 1926-1928

Farm group*	Farms in group	Weanling pigs, saved per litter	Annual cost per sow				Cost per pig weaned
			Feed and pasture	Man labor	Other	Total	
	No.	*No.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*
I (high)	5	7.4	30.85	10.87	5.25	46.97	3.55
II	7	6.5	27.94	10.13	6.60	44.67	4.05
III	6	6.1	25.85	8.34	4.86	39.05	4.10
IV (low)	5	4.8	25.27	10.20	1.25	36.72	4.55
Average of all	23	6.3	27.29	9.65	4.95	41.89	4.02

*Farms grouped according to the number of pigs saved at weaning time per litter.

This dollar difference between the cost per weanling pig of large and small litters became $2.20 difference in cost of production per head by the time they were ready for market. The causes for litters becoming small by weaning time continue to affect those pigs still living, thereby making the pork production more costly than when good healthy pigs are produced and so kept from the start. The number of pigs saved is looked upon as an indication of the success of the herdsman in the care of the breeding herd, sanitary practices, feeding methods and materials, and the general system of management.

TABLE 6.—Quantities of Feed and Labor for Sows, Including Litters to Weaning Time, 1926-1928

Farm group*	Farms in group	Weanling pigs, saved per litter	Annually per sow					
			Grain	Tankage, oilmeal	Bran, middlings	Mixed feeds	Skim-milk	Man labor
	No.	*No.*	*Lb.*	*Lb.*	*Lb.*	*Lb.*	*Gal.*	*Hr.*
I (high)	5	7.4	1784	38	69	15	48	36
II	7	6.5	1664	29	50	16	44	35
III	6	6.1	1546	12	1	21	70	30
IV (low)	5	4.8	1449	23	13	73	42	36
Average of all	23	6.3	1610	24	31	26	53	34

*Farms grouped according to the number of pigs saved at weaning time per litter.

Quantities of feed and labor for sows.—Sows with large litters required more feed than those with small litters, but the amount was not in direct proportion to the number of pigs. In the group of farms the sows with the largest litters received 1906 pounds of concentrates annually per head; whereas those with smallest litters received 1558 pounds. It is noticeable, however, that the sows with the largest litters received the most tankage, bran, and middlings.

The size of the litter does not determine the amount of labor required. Small, weak litters may take as much, or even more, attention than large, strong ones. Some pigs become sick and grow less vigorously, requiring extra time and care to get them back into feeding condition. As shown in Table 6, the same amount of man labor was expended on the large litters as on small ones. It is not the number of hours that makes the difference in the number of pigs saved but what was accomplished during the time spent.

Suckling pig losses.—Among the individual farms there was a loss of suckling pigs ranging from 14 to 57 per cent, with an average of about 25 per cent on all farms. These losses were distributed throughout the year in approximately the same ratio as the births, with March and September having the greatest number of each.

When the farms were grouped according to size of the litters saved, the data show that the group which saved the smallest litters lost 34.5 per cent of the pigs born, as compared with a 21.0 per cent loss in the group of farms with largest litters saved. Some of the causes of loss are listed in Table 7.

TABLE 7.—Suckling Pig Losses on Farms Grouped According to Number of Pigs Saved per Litter

Item	Group I	Group II	Group III	Group IV	All farms
Number of farm years	12	19	16	10	57
Total pigs born	1156	1980	1733	810	5679
Pigs born per litter	9.7	8.7	8.1	7.7	8.5
Weanling pigs saved per litter	7.4	6.5	6.1	4.8	6.3
	Pct.	*Pct.*	*Pct.*	*Pct.*	*Pct.*
Portion of pigs born, lost because of:*					
Born dead	4.0	2.7	1.2	1.9	2.6
Born weak	3.9	4.3	4.5	1.1	3.8
Lain on by sow	8.3	6.4	8.3	11.4	8.1
Frozen or chilled	1.9	4.0	3.9	5.3	3.6
Starved	1.7	0.9	1.9	1.9	1.5
Sow died	1.1	1.4	0.9	2.8	1.4
Eaten by sow	0.0	0.0	0.0	9.5	1.3
Flu	0.0	0.0	2.2	0.0	0.6
Sunstroke	0.0	2.5	0.0	0.0	0.8
Worms	0.0	0.0	0.4	0.0	0.1
Injury	0.1	0.3	0.6	0.6	0.4
Miscellaneous	0.0	2.5	0.0	0.0	0.8
Total portion lost	21.0	25.0	23.9	34.5	25.0

*Data for the years 1927 and 1928.

At times it was difficult to distinguish between the pigs born dead, born weak, or lain on by the sow, unless constant attention was given at farrowing time. The causes for pigs being born dead or weak and, consequently, some being lain on are due to conditions existing before birth. The care and treatment received by the sow during the gestation period, especially just before farrowing, greatly influenced the condition of the litter at birth. The first group of farms lost 16 pigs per hundred born, from the above causes, but the fourth group lost 14 pigs. Some of those lain on could have been saved, if a proper kind of guard rail had been installed in the farrowing pens. Other losses that might have been avoided were from pigs being chilled, frozen, or eaten by the sow. In the group where the largest litters were saved, this loss was less than two pigs per 100 born but in the group of smallest litters saved it amounted to fifteen.

As an average on all farms, the greatest loss was caused by pigs being lain on by the sow. This amounted to eight pigs per hundred born. Most of the pens were equipped with guard rails of some type, but they were not sufficiently effective, or the pigs lain on were weak, or the sow was awkward and careless.

COMPARISON OF LOW-COST AND HIGH-COST PRODUCERS

Amount of pork produced.—Some of the factors entering into the cost of producing pork have been worked out on the five farms with the lowest cost in order to show a comparison with the five farms having the highest cost, as well as with the average of all farms. There was a difference of $2.58 in the cost of production between the high and low groups. The farms in both groups maintained, on an average, a herd of 6 sows. However, the farms with low cost produced 16,049 pounds of pork, as contrasted with 11,521 pounds on the farms with high cost, notwithstanding the fact that the herds of the latter group were supplemented with purchases of almost five times as many pigs as the former. A large portion of this difference was due to the effect of losses, which will be discussed in a later paragraph.

Quantities of feed consumed.—The five farms with high cost of production per hundred pounds of marketable pork fed, on the average, 27 per cent more pounds of concentrate, or 26 per cent more total feed in value per hundred pounds of marketable pork, than the five farms with low cost of production. The kinds and amounts of feed consumed by the different groups are listed in Table 9.

TABLE 8.—Cost of Pork Production and Some Factors Affecting the Same, by Farm Groups, 1926-1928

Item	Farm groups*		
	5 farms with low cost	5 farms with high cost	Average of all 23 farms
Cost of pork production per 100 pounds ....Dol.	7.90	10.48	8.89
Feed and pasture....Dol.	6.00	7.53	6.49
Man labor ....Dol.	0.84	1.38	1.05
Other costs ....Dol.	1.06	1.57	1.35
Sows per farm....No.	6	6	7
Pigs raised annually per farm †....No.	72	39	67
Pigs purchased annually per farm....No.	3	14	8
Pork produced annually per farm ....Lb.	16,049	11,521	11,307
Pigs born per litter....No.	8.7	7.9	8.5
Lost before weaning....Pct.	25.7	31.9	26.6
Lost after weaning....Pct.	3.8	12.2	6.5
Pigs raised per litter †....No.	6.1	4.4	5.7
Pigs raised per sow per year‡....No.	11.6	6.1	9.6
Sow cost per pig raised† ....Dol.	4.10	6.06	4.41

*Farms grouped according to the average cost of producing an hundred pounds of pork
†Pigs raised until sold, butchered, or kept for breeding purposes.
‡Pigs raised figured on basis of the average number of sows at farrowing time.

TABLE 9.—Pork: Quantities of Feed Consumed and Feed Cost of Pigs That Died After Weaning, by Farm Groups*, 1926-1928

Items of feed	Feed per 100 pounds marketable pork					
	5 farms with low total cost		5 farms with high total cost		Average of all 23 farms	
	Amt.	*Dol.*	*Amt.*	*Dol.*	*Amt.*	*Dol.*
Corn	6.4 bu.	4.39	8.3 bu.	5.32	6.9 bu.	4.57
Other grains	55.2 lb.	0.79	52.3 lb.	0.64	57.5 lb.	0.79
Tankage, oilmeal	7.0 lb.	0.24	2.4 lb.	0.11	7.6 lb.	0.26
Mixed feeds	6.4 lb.	0.19	24.0 lb.	0.66	10.2 lb.	0.27
Skimmilk	1.4 gal.	0.11	14.0 gal.	0.43	8.5 gal.	0.25
Salt, minerals	0.3 lb.	0.00	1.8 lb.	0.04	0.8 lb.	0.02
Pasture	.....	0.28	.....	0.33	.....	0.33
Total feed	.....	6.00	.....	7.53	.....	6.49
Amount of pork lost†, per cent of increase	1.7	.....	6.1	.....	3.4	.....
Feed cost of all pork produced	.....	5.90	.....	7.10	.....	6.27
Feed cost of hogs lost† per 100 pounds of marketable pork	.....	0.10	.....	0.43	.....	0.22

*Farms grouped according to the average cost of producing an hundred pounds of pork.
†Lost by death after pigs weaned.

The high-cost group fed 8.3 bushels of corn per hundred pounds of pork produced, or about 30 per cent more than those producing at the lowest cost. There was little difference in the amount of other grains fed in each group. The low-cost group fed 7 pounds of tankage and oilmeal per hundred pounds of pork, which is small,[2] but the high-cost group fed even less, or 2.4 pounds. The latter

[2]According to Henry and Morrison, *Feeds and Feeding.*

group fed more mixed hog feeds and skimmilk than the former, which may have supplied some of the protein shortage due to the small amount of tankage and oilmeal used.

Loss increases cost.—Although the litters farrowed in the high-cost group were smaller, by about one pig, than those in the low-cost group, the relative amount of loss before marketing was about 50 per cent greater. The greatest loss in numbers occurred before weaning; this did not vary greatly in the different groups—the low-cost group having the smallest per cent. However, it was the loss of pigs in the period between weaning and marketing that caused the greater part of the variation in the production costs of the two groups. The low-cost group, during this period, lost 3.8 per cent of the total pigs born, as contrasted with 12.2 per cent in the high-cost group, as given in Table 8.

The number of marketable pigs raised per sow was 90 per cent greater in the low-cost than in the high-cost group. Because of the small litters of the latter group, the resultant sow-cost amounted to $6.06 per pig raised for market, butchered, or kept for breeding purposes, but the cost of the former group was $4.10 per pig, giving a decided advantage to the low-cost group. This difference in sow-cost per pig raised accounted for about 35 per cent of the difference between the total cost of pork production in the two groups.

The pigs lost after weaning weighed, on an average, 77 pounds per head. In the group of farms with a low cost of production, they were younger and lighter in weight than in the group with high costs. (See Table 10). The total weight of the pigs lost amounted to 6.1 per cent of pork produced, or 701 pounds per farm annually, in the high-cost group; whereas it was 40 per cent less in the low-cost group. Such losses always make the cost of production higher on those that finally reach the market.

TABLE 10.—Hogs: Losses Between Weaning and Marketing, by Farm Groups*, 1926-1928

Item	5 farms with low total cost	5 farms with high total cost	Average of all 23 farms
Annual loss per farm:			
Number of pigs	4	9	7
Total weight at death	278	701	542
Average weight per pig died	70	76	77
Loss, as per cent of total pork produced	1.7	6.1	3.4

*Farms grouped according to the average cost of producing an hundred pounds of pork.

When the total feed cost of the hog enterprise was divided by the total pounds of pork produced (including the weight of pigs lost after weaning), the average cost amounted to $6.27 per hundred. This was 22 cents less than when the total feed cost was divided by the pounds of marketable pork produced, as given in Table 9. The above 22 cents, representing the feed cost of pigs that died, must be borne by those that were marketed. Of course, there would be other costs in addition to the feed of the pigs lost that must be charged to the survivors, but the feed cost constituted about 73 per cent of the total cost.

In the group of farms with low cost of production, the feed cost of pigs that died amounted to 10 cents per hundred pounds of marketable pork, but in the high-cost group it was 43 cents.

The difference in cost between the low- and high-cost groups cannot be explained entirely by the number of pigs saved per litter or of pigs lost both before and after weaning. On a farm where a large number had died, the ones that remained were undoubtedly less thrifty and made a less economical gain, thus increasing their cost of production. The most economical gain is secured when the pigs are kept healthy and thrifty from the start.

SUMMER AND WINTER FEEDING

Hogs fed during the winter, or non-pasture season, consumed an additional 138 pounds, or 37 per cent, more grain and concentrates per hundred pounds of pork produced, than those fed during the pasture season. This additional feed consisted of corn. In fact, 24 pounds less of other grain and concentrates were fed and 162 pounds more of corn for each hundred pounds of gain in pork during this period.

TABLE 11.—Hogs: Some Differences Between Summer and Winter Feeding of Pigs After Weaning, 23 Farms, 1926-1928

Season	Per hundred pounds of gain					Sale price per 100 pounds
	Amount of corn	Other grain and concentrates	Total grain and concentrates	Total value of feed	Amount of labor	
	Bu.	*Lb.*	*Lb.*	*Dol.*	*Hr.*	*Dol.*
Summer (May-October)	5.2	78	369	5.57*	2.2	11.40
Winter (November-April)	8.1	54	507	6.43	2.6	10.79

*Includes pasture to the amount of 42 cents.

The value of winter feed consumed per hundred pounds of gain was 25 per cent greater than the value of summer feed minus the pasture; it was only 15 per cent more when the value of pasture was

included with the summer feed. The feed consumed in winter was valued at a lower price, mainly because corn averaged 63 cents per bushel in winter, as compared with 71 cents in summer.

The sale price for hogs sold during May to October, inclusive, averaged 61 cents more per hundred pounds than those sold during November to April.

MARKETING AT DIFFERENT AGES

On some farms pigs are fed well from the start and arrive at a weight of 200 pounds or more by 6 or 7 months of age. Others were fed for 9, 10, and even 12 months before being marketed at about the same weight. The latter group were fed very little grain during the pasture months but were allowed to run on pasture during the summer and to be fattened on new corn in the fall and winter.

TABLE 12.—Hogs: Cost of Production and Receipts when Marketed at Different Ages, 1926-1928

Age when sold	Farm year records	Average weight when sold	Per hundred pounds				
			Hogs died	Amount of corn	Total feed cost	Total cost	Receipts
Mo.	*No.*	*Lb.*	*Lb.*	*Bu.*	*Dol.*	*Dol.*	*Dol.*
7 and less	13	209	0.8	5.9	6.21	9.02	10.01
8*	14	225	1.8	7.0	6.16	8.39	9.61
8†	11	219	6.6	7.2	6.97	9.23	9.36
9 and over	10	225	3.0	8.2	7.24	9.63	9.24

*Farms with *low* losses that sold pigs at 8 months of age.
†Farms with *high* losses that sold pigs at 8 months of age.

The former group was sold at 7 months, or less, producing pork with 28 per cent less corn, and 14 per cent less total feed value, and also with 73 per cent less losses. These pigs were thrifty from the start and made faster and more economical gains, thereby enabling the producers to take advantage of a higher market, which netted 77 cents per hundred pounds more than was possible on the group that was sold at 9 months of age or older.

DAIRY ENTERPRISE COSTS

The major portion of dairy products from 22 of the 23 farms was sold as butterfat in the form of cream, although some butter was sold at times. With the exception of one farm, the cost of production was figured on the basis of pounds of butterfat. The dairy products of one farm were sold mainly as bottled milk and cream and were not included in the figures here presented. (See Tables 27 and 28).

COMPARISON OF LOW-COST AND HIGH-COST PRODUCERS

As an average, the herds on the five farms with low cost of butterfat production contained 5.6 cows, as compared with 3.8 cows in herds with high costs. Although the size of herds differed, the amounts of several other factors considered were alike for both groups. The butterfat production per cow and the sale price of butterfat were the same in both groups, as given in Table 13. Other factors brought about the difference in the cost of production and, consequently, the returns above cost. The calculation of the returns for butterfat per hour of labor showed that the group with low cost of butterfat production received 56 cents, as compared to 21 cents in the group with high cost of production.

The farms with high cost of butterfat production fed 39 per cent more concentrates, 25 per cent more hay, and 24 per cent more stover than those with low cost of butterfat production. In addition, the latter group fed some ensilage, but the former group fed none. However, this amount of ensilage would not fully equalize the otherwise lower feed consumption. In terms of value, the group of farms with high cost of butterfat production fed about 20 per cent more feed than the low-cost group, and yet both groups produced the same amount of butterfat per cow. The one group had less efficient cows and poorer management.

The farms with high cost of production expended 156 hours of labor annually per cow, or 49 per cent more than the low-cost group. The small herds in the former group required more labor per cow for feeding and care, thus greatly increasing the cost.

The building and equipment charges were 71 per cent greater per cow in the group of high-cost farms than in the low-cost group. Buildings and equipment are generally used nearer to their capacity with large herds than with small ones. Although neither group had large herds, the low-cost group kept an average of 47 per cent more cows than the high-cost group and thus kept their facilities more fully utilized.

The low-cost group produced calves at the rate of four for each five cows, but the high-cost group produced only two. Also, the former group contained more young cows or others that were increasing in value than the latter group. The former group had an average appreciation of $5.85 per cow, as compared with the latter which had a depreciation of 10 cents per cow. The latter group also had some cows appreciating in value, but not as large a proportion as the first group.

TABLE 13.—Cows: Average Quantity and Value of Cost Items Annually per Head on Two Groups of Farms and on All 21* Farms, 1926-1928

Item	Group I, 5 farms, low cost of butterfat		Group II, 5 farms, high cost of butterfat		Average on all 21 farms	
Cows per herd	5.6		3.8		4.7	
Production per cow.....Lb.	214		214		225	
Return per $1 worth of feed.....Dol.	2.35		1.84		2.16	
Return per hour of labor .....Dol.	.56		.21		.39	
Return per pound of butterfat ....Dol.	.46		.46		.46	
	Lb.	*Dol.*	*Lb.*	*Dol.*	*Lb.*	*Dol.*
Cost factors per cow:						
Feed:						
Corn	789	9.06	1343	16.48	985	11.66
Oats	653	8.49	749	9.40	592	7.85
Barley	276	3.91	236	3.37	251	3.47
Other grains					14	0.31
Cottonseed, oilmeal	18	0.51	21	0.63	23	0.65
Bran, middlings	7	0.14	42	0.84	13	0.26
Other concentrates	19	0.55	56	1.53	76	2.15
Salt, minerals	27	0.26	28	0.28	26	0.25
Ensilage	1179	2.95			1030	2.57
Legume hay	1426	8.68	1662	10.85	1709	10.71
Other hay	383	1.87	482	2.42	390	1.93
Stover	2536	2.84	3133	3.61	2589	2.74
Pasture	205 days	13.47	199 days	13.62	201 days	13.41
Total feed and pasture		52.73		63.03		57.96
Straw bedding	1566	1.19	1586	1.21	1674	1.28
Man labor	105 hr.	29.51	156 hr.	46.11	135 hr.	39.00
Horse work	4 hr.	0.50	5 hr.	0.64	6 hr.	0.74
Building charge		5.01		8.18		6.75
Equipment charge		2.31		4.32		3.49
Taxes, insurance		0.85		0.77		0.88
Bull service		1.57		0.95		2.26
Overhead		4.30		6.58		5.11
Veterinary, medicine		0.19		0.43		0.40
Interest on cow at 5 per cent		3.49		3.14		3.44
Total annual cost per cow		101.65		135.35		121.31
Credits annually per cow:						
Manure	6.6 ton	6.57	6.6 ton	6.64	6.7 ton	6.73
Calf	0.8 calf	4.95	0.4 calf	2.32	0.9 calf	5.49
Appreciation on cow		5.85		−0.10		1.21
Skimmilk	5133 lb.	15.40	5133 lb.	15.40	5333 lb.	16.00
Total credits		32.77		24.26		29.43
Net cost of butterfat		68.88		111.09		91.88
Cost per pound butterfat		0.32		0.52		0.41

*Farms 6 and 13 were not included.

The high-cost group exceeded the low-cost group and the average of all farms in total feed cost, labor cost, and other costs but was below in the amount of credits. Consequently, its annual net cost of producing butterfat per cow was 21 per cent greater than the average of all farms and 61 per cent greater than that of the low-cost group.

OTHER CATTLE COSTS

BULLS, HEIFERS, AND CALVES

In this group of farms, the bulls received only 26 per cent as many pounds of concentrates as the cows and 20 per cent more roughage. Some farmers did not turn their bulls on pasture; hence, the larger amount of roughage fed. The value of all feed consumed by a bull annually was 23 per cent less than that of a cow. The labor requirement for bulls was much less than for cows, being 59 hours annually per bull, as compared with 135 hours per cow.

TABLE 14.—Unit Cost of Keeping a Bull, Heifer, and Calf a Year, Average 23 Farms, 1926-1928

Item	Bull		Heifer*		Calf†	
	Amount	Value	Amount	Value	Amount	Value
	Lb.	*Dol.*	*Lb.*	*Dol.*	*Lb.*	*Dol.*
Feed:						
Corn	422	4.54	229	2.34	101	1.12
Other grain	61	0.90	63	0.83	100	1.37
Cottonseed meal, oilmeal	8	0.19	1	0.03	.....	.....
Other concentrates	.....	.....	20	0.55	17	0.65
Salt	31	0.31	16	0.16	4	0.04
Whole milk	.....	.....	.....	.....	653	8.31
Skimmilk	.....	.....	.....	.....	2215	7.73
Ensilage	1963	4.91	2262	5.65	227	0.57
Legume hay	2149	14.05	936	5.88	374	2.55
Other hay	427	1.96	252	1.05	27	0.12
Stover	2376	2.46	1699	1.63	258	0.26
Pasture	.....	11.08	.....	10.25	.....	3.71
Total feed and pasture	.....	40.40	.....	28.37	.....	26.43
Straw bedding	2180	1.71	1037	0.81	702	0.57
Man labor	59 hr.	16.87	22 hr.	6.31	27 hr.	7.86
Horse work	.....	0.28	.....	0.21	.....	0.09
Building charge	.....	6.83	.....	3.08	.....	2.54
Equipment charge	.....	0.72	.....	1.03	.....	0.85
Taxes, insurance	.....	0.76	.....	0.59	.....	0.23
Overhead	.....	.....	.....	1.86	.....	1.67
Interest on animal at 5 per cent	.....	3.60	.....	1.90	.....	0.67
Total annual cost	.....	71.17	.....	44.16	.....	40.91
Manure credit	.....	7.26	.....	3.69	.....	2.44
Net annual cost per head	.....	63.91	.....	40.47	.....	38.47

*Heifers include animals from one year of age until freshening.
†Calves include animals from birth until one year of age.

A heifer[3] consumed annually 329 pounds of concentrates and 5149 pounds of roughage in addition to pasture. This was only a sixth of the concentrates consumed by a cow and nine-tenths of the roughage, aside from pasture. The total feed cost of a heifer for a year was 49 per cent of that of a cow. Labor for feeding and care of the heifer amounted to 22 hours annually, or one-sixth of the requirement per cow.

[3]Heifers, for the purpose of this study, are from one year of age until freshening.

A calf, by the time it reached one year of age, had consumed 222 pounds of concentrates, 886 pounds of roughage besides pasture, and 2868 pounds of milk. The quantity of dry feed consumed was considerably less than that for a heifer for a year, but the value of total feed was almost as great because of the large quantity of milk consumed by the calf. A little more time was expended on the calves, mainly because of the extra attention necessary during the first 2 months of life.

VEAL CALVES

Only a few of the calves secured their milk directly from the cow; most of them were hand-fed, at least after the first 10-day period. Some farmers diluted the milk with skimmilk during the second month. Only one fed any prepared calf meal and that was a very small amount. As an average for 123 calves, 1117 pounds of whole milk and 83 pounds of skimmilk were fed to produce a veal calf weighing 185 pounds.

TABLE 15.—Veal Calves: Average Quantity and Value of Cost Items per Head on Two Groups of Farms and on All 18 Farms, 1926-1928

Item	Group I, 7 farms, veals below 190 pounds		Group II, 11 farms, veals above 190 pounds		Average of all veal calves	
Total number of veal calves	50		72		123	
Average weight per head when sold	166 lb.		198 lb.		185 lb.	
Average returns per head	$23.44		$27.19		$25.65	
	Lb.	*Dol.*	*Lb.*	*Dol.*	*Lb.*	*Dol.*
Cost factors per veal:						
Feed:						
Whole milk	1055	12.69	1159	14.03	1117	13.48
Skimmilk	34	0.12	117	0.41	83	0.29
Calf meal	(*)	0.05	.....	.....	(*)	0.02
Total feed	.....	12.86	.....	14.44	.....	13.79
Man labor	6.7 hr.	1.95	9.4 hr.	2.72	8.3 hr.	2.41
Horse work	.....	0.08	.....	0.08	.....	0.08
Building charge	.....	0.20	.....	0.30	.....	0.26
Equipment charge	.....	0.10	.....	0.18	.....	0.15
Taxes, insurance	.....	0.02	.....	0.06	.....	0.04
Overhead	.....	0.97	.....	1.65	.....	1.37
Interest	.....	0.07	.....	0.09	.....	0.08
Value at birth	.....	6.00	.....	6.00	.....	6.00
Total cost	.....	22.25	.....	25.52	.....	24.18

*Less than a pound.

When the veal calves were divided into two groups according to the weight when sold, those averaging 198 pounds cost 51 cents per hundred pounds less than those of 166 pounds. The heavier

calves sold for 39 cents per hundred pounds less than the lighter ones, but the net results amounted to a difference of 48 cents per head in favor of the heavier calves.

FATTENING CATTLE

Cattle were fattened on seven of the 23 farms. All seven farms purchased feeders, and five of them raised additional ones to fatten. The data presented in Table 16 include the cost of the gain in weight from the time of purchase to the time of sale, or from one year of age to the day of sale. Feed and pasture formed 75 per cent of the total cost of production, with man labor following second in importance with 9 per cent. The feed and pasture cost ranged from $6.88 to $11.65 per hundred pounds of gain; the ability of some animals to make more gains on the feed consumed resulted in variations in cost of production.

Baby beef.—Farm 11 kept from five to six purebred Shorthorn cows whose offspring were raised and sold as baby beef. The calves were allowed to run with the cows all the time, making it unnecessary to do any milking by hand. Thus, the beef cows were kept for the sole purpose of raising the calves and were so considered when figuring the cost of producing beef by this method. Hence, each of the 14 calves sold during the 3 years bore a total of $61 for feed, $17 for labor, and $25 for miscellaneous expenses and charges, or a total of $103 including expenses of the cows. From this was subtracted $12 for manure credit, leaving a net cost of $91 per calf. The calves averaged 838 pounds in weight when sold and brought $101. Thus, the receipts were $10 per calf above all costs of keeping the herd.

The advantage was even greater than this when considered from various other points of view. The operator received market price for a large amount of home-grown feed, much of which was roughage that perhaps could not have been sold. He received 30 cents an hour for his labor, which amounted to 274 hours per year. The cash outlay was very small. Other than taxes it amounted to only 82 cents per calf for purchased feeds.

The keeping of the beef cattle formed another enterprise which increased the size of his business, utilized and made a profitable market for some home-grown feeds, returned good wages for a month's work which was distributed throughout the year, and did not compete directly with other enterprises.

TABLE 16.—Fattening Cattle: Variations in Items of Cost of Producing Beef and in Returns, Together with Amounts of Feed and Labor Consumed, by Farms, 1926-1928

Farm	Cost per 100 pounds												Returns per 100 pounds produced
	Feed	Pasture	Man labor	Horse work	Building charge	Equipment	Taxes, insurance	Overhead*	Interest	Total	Credits	Net cost	
	Dol.	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*
16	7.23	1.26	0.78	.03	0.77	.23	.13	.38	.47	11.28	1.22	10.06	10.41
2	8.19	1.13	0.94	.08	0.82	.26	.16	.56	.83	12.97	1.16	11.81	13.21
12	6.87	0.01	3.91	.56	0.63	.38	.12	.83	.31	13.62	1.43	12.19	9.08
4	5.16	2.87	1.47	.06	2.66	.21	.22	.85	.63	14.13	1.55	12.58	11.61
1	9.95	1.70	1.17	.12	0.37	.10	.16	.36	.57	14.50	1.46	13.04	13.45
8	9.18	1.14	1.41	.08	1.89	.35	.18	.84	.40	15.47	1.04	14.43	9.30
5	10.99	0.56	1.82	.06	1.42	.24	.01	.40	.40	15.90	0.90	15.00	11.38
Av.	9.16	1.37	1.30	.10	0.82	.18	.14	.45	.56	14.08	1.29	12.79	12.37

Farm	Corn	Other grain	Cotton-seed	Oilmeal	Salt	Ensilage	Legume hay	Other hay	Stover	Straw bedding	Horse work	Man labor	Total increase produced
	Bu.	*Bu.*	*Lb.*	*Lb.*	*Lb.*	*Lb.*	*Lb.*	*Lb.*	*Lb.*	*Lb.*	*Hr.*	*Hr.*	*Lb.*
16	5.7	1.3	.....	.....	3.5	682.6	174.1	.....	214.8	147.7	0.4	2.9	10,430
2	9.2	3.3	16.5	17.0	4.0	.....	114.6	19.2	422.6	197.0	0.6	3.0	13,960
12	5.4	.....	.....	.....	3.2	224.1	438.0	.....	509.0	203.7	5.2	13.0	2,945
4	.....	0.5	.....	.....	7.0	.....	659.1	11.3	180.6	158.0	0.5	5.2	4,430
1	12.1	1.5	16.7	15.4	3.7	.....	166.9	5.3	537.6	184.2	1.2	4.6	41,250
8	15.5	.....	.....	.....	.....	.....	221.8	.....	274.9	218.2	0.7	4.7	2,750
5	13.8	1.4	9.8	9.6	1.9	.....	180.7	76.9	733.8	236.4	0.5	6.7	13,750
Av.	10.4	1.6	11.8	11.2	3.6	92.4	197.1	17.8	485.5	190.0	1.0	4.8	89,515

*Straw bedding, which averaged 13 cents, is included with overhead.

SHEEP PRODUCTION COSTS

COST OF WOOL AND MUTTON

The keeping of sheep was a minor enterprise on these farms. The income from this source averaged 2.3 per cent of the total receipts on all farms; and on one farm, it was as high as 10 per cent. Only 9 of the 23 farms kept sheep. The flocks were composed mainly of ewes, averaging 75 per cent, or 16 ewes per flock. The remaining 25 per cent were rams, lambs, and yearlings.

On these farms the annual cost of keeping a sheep ranged from $4.56 to $10.82, making an average of $7.29. The flock that was kept at the lowest cost per head was not necessarily the most efficient producer of mutton and wool; the amount of increase in these commodities must also be considered. When the nine farms were put into three groups according to their cost per dollar of receipts, as given in Table 17, Group B had the lowest annual cost per sheep but was in the middle place when it came to the cost per dollar of receipts. The average yield of mutton and wool per sheep of the middle group was less than that of the group with least cost per dollar receipts, mainly because the flocks of the former group contained 33 per cent of sheep other than ewes, as compared to 25 per cent in the latter group.

TABLE 17.—Sheep: Cost of Producing Wool and Mutton and Cost per Dollar Returns, by Farm Groups, 1926-1928

Farm group*	Average size of flock	Per mature sheep or equivalent, annually								Cost per dollar return
		Feed	Pasture	Man labor		Other costs	Total cost	Manure credit	Net cost of mutton and wool	
				Amount	Value					
	No.	*Dol.*	*Dol.*	*Hr.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*
A	26.0	2.56	2.16	5.4	1.58	1.96	8.26	1.05	7.21	.51
B	18.6	1.60	2.48	6.7	1.87	1.86	7.81	0.79	7.02	.71
C	20.2	1.77	2.44	6.7	1.88	2.47	8.56	0.99	7.57	.91
Average...	21.5	2.01	2.35	6.2	1.77	2.12	8.25	0.96	7.29	.67

*Nine farms were divided into three groups according to their cost per dollar of receipts from sheep.

A mature sheep, or its equivalent, consumed, on the average, about 75 pounds of concentrates and 354 pounds of roughage annually besides being on pasture 242 days. The amounts and values per unit of the various feed materials consumed, together with other cost factors, are given in Table 18. Feed and pasture formed 53 per cent of the total cost of keeping a sheep and labor 21

per cent. As the prices of these items change, other rates may be applied to the quantities and thus a new estimate secured for 74 per cent of the total cost. Other costs (such as buildings, equipment, interest, taxes, and overhead costs) do not fluctuate as much and may be used as given to secure an estimated current cost of keeping a sheep.

TABLE 18.—Sheep: Average Cost of Keeping for a Year, and Net Cost of Mutton and Wool on 9 Farms, 1926-1928

Item of cost	Amount	Value	
		Per unit	Total
		Dol.	*Dol.*
Feed:			
Corn	30.0 lb.	0.65 per bu.	0.28
Oats	33.0 lb.	0.46 per bu.	0.47
Barley	6.2 lb.	0.78 per bu.	0.10
Other concentrates	0.5 lb.	2.15 per cwt.	0.01
Salt	4.9 lb.	0.94 per cwt.	0.05
Legume hay	96.8 lb.	13.46 per ton	0.65
Mixed hay	46.5 lb.	9.42 per ton	0.22
Stover	211.1 lb.	2.19 per ton	0.23
Pasture	242 days	0.29 per mo.	2.35
Total feed and pasture			4.36
Bedding, straw	87.5 lb.	1.65 per ton	0.07
Man labor	6.2 hr.	0.29 per hr.	1.77
Horse work	0.4 hr.	0.12 per hr.	0.04
Buildings and equipment			0.89
Taxes and insurance			0.15
Miscellaneous and overhead			0.62
Interest on ewe			0.35
Total cost of keeping sheep			8.25
Manure credit	0.9 ton	1.00 per ton	0.96
Net cost of wool and mutton			7.29

Some factors affecting costs and returns.—The number of lambs raised per hundred ewes greatly affected the returns from the sheep enterprise. On this group of farms, the major portion, or 73 per cent of the sheep receipts, was from the sale of mutton. When the farms were grouped according to their cost of production per dollar of receipts from sheep, the group with the lowest cost raised 113 lambs (the most per hundred ewes) and also received the highest mutton receipts. (See Table 19). The group with the highest cost per dollar of receipts raised 72 lambs (the least per hundred ewes) and, consequently, received the lowest mutton receipts. The middle group had the lowest annual net cost of keeping a sheep but did not raise as many lambs as the group with low cost per dollar receipts; hence, the cost of the former group per dollar receipts was higher than that of the latter.

TABLE 19.—Sheep: Some Factors Affecting Profits From Sheep, By Farm Groups, 1926-1928

Farm group*	Average size of flock	Annually per sheep				Lambs raised per 100 ewes	Wool per fleece	Per lb. of wool		Cost per dollar receipts
		Labor	Net cost	Total returns	Mutton receipts			Selling price	Cost of production	
	No.	*Hr.*	*Dol.*	*Dol.*	*Dol.*	*No.*	*Lb.*	*Dol.*	*Dol.*	*Dol.*
A.....	26.0	5.4	7.21	14.14	11.12	113	9.1	.411	.216	.51
B.....	18.6	6.7	7.02	9.90	6.86	107	9.4	.394	.279	.71
C.....	20.2	6.7	7.57	8.34	5.66	72	9.2	.384	.350	.91
Average	21.5	6.2	7.29	10.89	7.99	96	9.2	.397	.281	.67

*Nine farms were divided into three groups according to their cost per dollar of receipts from sheep.

There was little variation in the average weights per fleece of each of the three groups. The proportion of mature sheep in the flocks varied more among the groups than the average weight per fleece and, hence, had greater influence on the variation of total receipts.

The selling price of wool varied several cents among the groups but was not enough to affect the cost per dollar of receipts materially.

The combination of good production in lambs and a high ratio of breeding ewes to other sheep in the adult flock had the greatest influence on the increase of returns above net cost per sheep.

POULTRY PRODUCTION COSTS

COSTS OF EGGS AND MEAT

The poultry flock on these farms consisted, on the average, of 127 hens, 9 roosters, and 199 chickens raised until disposed of or put into the adult flock. Such a flock, when calculated in terms of animal units, represented 1.86 of these units, or the equivalent of 186 mature hens or chickens. The annual cost of keeping a hundred hens or their equivalent varied from $129.29 to $381.57 on the different farms and averaged $210.36. This was the cost of producing eggs and some net increase in chickens. Egg receipts were 69 per cent and the sale of hens and chickens 31 per cent of the total receipts.

Feed was the main item of cost, forming 51 per cent. Of the feed used, about 77 per cent was home-grown grains, such as corn, oats, barley, and wheat. Corn alone averaged about 41 bushels per 100 chickens, or 40 per cent of concentrates fed.

TABLE 20.—Poultry: Average Cost of Keeping a Flock of 100 Hens, or Their Equivalent, for a Year and Net Cost of Meat and Eggs on 23 Farms, 1926-1928

Item	Amount	Value	
		Per unit	Total
		Dol.	*Dol.*
Cost of keeping 100 hens or their equivalent:*			
Feed:			
Corn	40.8 bu.	0.75 per bu.	30.55
Oats	24.2 bu.	0.44 per bu.	10.74
Barley	19.4 bu.	0.74 per bu.	13.50
Wheat	5.6 bu.	1.16 per bu.	6.53
Bran, middlings	434.5 lb.	2.10 per cwt.	9.14
Tankage, meat scraps	239.6 lb.	3.89 per cwt.	9.32
Mash and other feeds	655.5 lb.	3.34 per cwt.	21.86
Total concentrates			101.64
Skimmilk	231 gal.	0.03 per gal.	7.00
Oyster shells, minerals	107 lb.	1.27 per cwt.	1.36
			110.00
Labor	222.8 hr.	0.289 per hr.	64.31
Horse work	4.2 hr.	0.115 per hr.	0.49
Building charges			13.21
Equipment charges			4.64
Taxes, insurance			1.13
Overhead			11.23
Miscellaneous			7.38
Interest on flock at 5 per cent			4.71
Total annual cost per 100 hens, or their equivalent			217.10
Credit:			
Manure			6.74
Net cost of meat and eggs			210.36

*Includes roosters and pullets over 6 months of age and 40 per cent of yearly average number of young chickens under 6 months of age.

Labor was the second largest item, forming 30 per cent of the total cost. About 223 hours, as an average, were spent each year in feeding and caring for 100 hens or their equivalent. This labor was usually performed by the housewife or children.

The remaining 19 per cent of the cost of keeping chickens consisted of horse work, building charges, equipment charges, taxes, insurance, overhead, medical and miscellaneous supplies, hatching expenses, and interest. These items cannot be expressed easily in material units. Current values could be used for the given quantities of feed and labor, together with the various other costs to get a new estimated cost of keeping 100 birds.

Egg production.—Among the various farms the egg production varied from 58 to 164 eggs per hen annually, with an average of 98 eggs, showing that some flocks could be greatly improved. When the 54 flock-year records were divided into three groups according to egg production per hen, 15 flocks produced less than 85 eggs per hen annually, and 13 out of the 54 produced over 100 eggs per hen.

TABLE 21.—Poultry: Relation of Egg Production per Hen to Costs, Returns, and Other Factors, by Farm Groups, 1926-1928

Group*	Farm year records	Eggs produced		Annually per 100 adult birds or their equivalent			Cost per $1.00 returns	Per dozen of eggs	
		Annually per hen	Oct.-Jan.	Concentrates	Labor	Total net cost		Cost	Receipts
	No.	*No.*	*Pct.*	*Lb.*	*Hr.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*
I. Less than 85	15	72	11.0	5208	184	171.67	1.00	0.262	0.262
II. 85 to 100	26	90	11.6	4882	207	182.56	0.86	0.236	0.275
III. 100 and over	13	128	14.8	6974	217	250.64	0.86	0.257	0.291

*Flocks grouped according to the number of eggs produced annually per hen.

As egg production increased, the annual cost of keeping 100 adult birds increased; however, the receipts also increased to such an extent that the cost per dollar of returns actually decreased. The group with the highest production and highest cost was fed the most concentrates and had the largest percentage of the total egg production during October to January, usually the months of highest egg prices. The group that produced 14.8 per cent of the total egg production during October to January received, as an average, about 3 cents a dozen more than the group that produced only 11 per cent during the same period.

Some factors affecting costs and returns.—The 57 flock-year records were divided into three groups according to the cost per dollar of receipts. (See Table 22). There were 20 such flocks whose costs per dollar of receipts were less than 83 cents and 16 flocks that failed to cover their costs. This latter group fed 15 per cent more concentrates, costing 43 per cent more per 100 adult birds, than the former group. Some higher-priced feeds were used by this latter group. This group with the highest cost per dollar receipts also expended more than twice as much labor as the group with low cost. These greater expenditures, together with higher miscellaneous costs, made the total cost of keeping 100 hens, or their equivalent, 63 per cent higher for the high-cost group than for the low-cost group. There was very little difference in the total returns. Although the high-cost group produced a few more eggs than the low-cost group and more at the time of year when they are usually high in price, fewer chickens were sold so that the total returns of the two groups were practically the same. This resulted in a return of $60.57 above cost for the low-cost group and a lack of $43.68 in covering costs for the high-cost group.

TABLE 22.—Poultry: Some Factors Affecting Cost of Production and Returns, by Farm Groups, 1926-1928

Item		Flocks grouped as to cost per dollar of receipts			Average of all farms
		I Less than $0.83	II $0.83-1.00	III More than $1.00	
Farm-year records	No.	20	21	16	57
Hens per flock	No.	134	119	128	127
Proportion of hens in flock	Pct.	70.1	68.2	66.5	68.3
Cost per $1.00 of receipts	Dol.	0.74	0.90	1.18	0.92
Annual egg production per hen	No.	99	87	109	98
Eggs produced October-January, inclusive	Pct.	12.1	13.0	14.9	13.3
Young chickens raised per 100 hens	No.	193	191	215	199
Per 100 adult birds or their equivalent:*					
Total concentrates fed	Lb.	5355	5552	6145	5654
Feed cost	Dol.	95.95	101.48	137.52	110.00
Labor, amount	Hr.	149	213	326	223
Total net cost	Dol.	172.87	189.61	281.42	210.36
Eggs, value	Dol.	156.78	140.84	178.92	157.72
Meat increase, value	Dol.	76.66	76.73	58.82	71.48
Total returns	Dol.	233.44	217.57	237.74	229.20
Returns above cost	Dol.	60.57	27.96	−43.68	18.84
Cost of eggs per dozen:					
By method No. 1 †	Dol.	0.201	0.256	0.349	0.264
By method No. 2 ‡	Dol.	0.166	0.228	0.370	0.250
Selling price of eggs per dozen	Dol.	0.271	0.285	0.297	0.283
Return per $1.00 of feed	Dol.	2.43	2.14	1.73	2.08
Return above other costs per hour of labor	Dol.	0.71	0.41	0.15	0.37

*This includes 40 per cent of the yearly average number of young chickens under 6 months of age as adult equivalent.

†The net cost of keeping the flock was divided between meat increase and eggs on the basis of percentage of returns from each.

‡The value of meat increase was subtracted from the net cost of keeping the flock, and the result was considered the cost of egg production.

COMPARISON OF COSTS AND RETURNS ON LIVESTOCK

The various classes of livestock gave different returns per unit of expense, making some more profitable than others. Sheep gave the largest returns per hour of labor, when all other costs were deducted. This return for sheep averaged 87 cents per hour, for hogs 48 cents, for dairy cattle 39 cents, for poultry 37 cents, and for beef cattle the least, or 19 cents per hour of labor. If the main enterprise had consisted of beef cattle, the net income would have been considerably less than if the same feed had been fed to hogs or dairy cattle.

As a factor affecting labor income, the cost of production has a very great influence. When the farms in this study were divided into groups according to their labor income, the group of five farms with the highest labor income produced each of the livestock products at a lower cost per unit than the group of farms with the lowest income, as given in Table 23.

TABLE 23.—Cost and Returns of Various Classes of Livestock and Livestock Products on Two Groups of Farms and the Average of All Farms, 1926-1928

Class of livestock	5 farms, highest labor income	5 farms, lowest labor income	Average of all 23 farms
	Dol.	*Dol.*	*Dol.*
Average labor income annually per farm	2133	378	1110
Cost per unit produced:			
Pork, per hundred pounds	8.36	9.34	8.89
Butterfat, per pound	0.39	0.47	0.41
Veal calf, per head	23.00	29.61	24.18
Beef, per hundred pounds	13.15	.....	12.79
Wool, per pound	0.23	0.36	0.28
Eggs, per dozen	0.25	0.35	0.26
Returns per unit produced:			
Pork, per hundred pounds	9.54	9.87	9.58
Butterfat, per pound	0.45	0.47	0.46
Veal calf, per head	25.02	28.33	25.65
Beef, per hundred pounds	12.90	.....	12.37
Wool, per pound	0.39	0.38	0.40
Eggs, per dozen	0.28	0.30	0.28

When costs are high, the possibility of a spread between cost and sale receipts is much smaller. The importance of keeping costs low is shown by the data given in Table 24, where the group of farms with highest labor income had much larger returns per dollar of cost than the group of farms with a low-labor income. There was some variation in the sale price of the livestock, but that would not account for the difference between the returns above cost of the two groups.

TABLE 24.—Livestock Returns per Dollar of Total Cost, 1926-1928

Farm	Labor income	Returns per dollar of total cost				
		Dairy cattle	Beef cattle	Hogs	Sheep	Poultry
	Dol.	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*
5 high*	2133	1.30	0.98	1.14	1.85	1.14
5 low*	378	0.90	.....	1.06	1.06	0.84
All farms	1110	1.08	0.97	1.08	1.50	1.09

*Averages for the years 1926-1928 for the 5 high and 5 low of 23 farms, grouped according to labor income.

The cost elements of livestock production are more nearly under the control of the operator than is the sale price. Reducing these cost items in amount or increasing production yields without a proportional increase in cost forms a wider spread between cost and sale price, which results in larger net returns.

SUMMARY

Profits occur when the cost of production is less than the sale price.

Cost factors and their relative amounts indicate the strong and weak points in the production of livestock products.

The cost of producing pork varied from year to year, due mainly to the fluctuation in price of feeds. Corn formed 84 per cent of the concentrates fed and thus greatly influenced this fluctuation.

The total cost of large litters up to weaning time was more than that of small ones, but the cost per pig weaned was $1.00 less in the large litters than in the small ones. By the time the pigs were ready for market, the difference in cost per head increased to $2.20, or $1.00 per hundred pounds in favor of large litters.

Small litters required as much man labor as large ones. It was not the number of hours that made the difference in the number of pigs saved but what was accomplished during the time spent.

Suckling pig losses, on individual farms, ranged from 14 to 57 per cent. Of the total number of pigs born, 15 per cent was lost by being born dead, born weak, or lain on by the sow.

The total cost per weanling pig was $4.02.

Corn formed 84 per cent by weight of the dry feed and 51 per cent by value of the total cost of producing pork.

Loss of pigs after weaning materially affects cost of production. The low-cost group, during this period, lost 3.8 per cent of the total pigs born, as compared with 12.2 per cent in the high-cost group.

The pigs that were marketed bore an extra cost-charge of 22 cents per hundred pounds to cover feed given to pigs that had died.

Hogs fed during the winter, or non-pasture season, consumed, per hundred pounds of pork produced, 37 per cent more feed by weight, with but a 15 per cent increase in feed cost, than did those that were fed during the summer season.

Pigs that were fattened and marketed by 6 or 7 months of age consumed 28 per cent less corn and 14 per cent less total feed in value, and were sold on a market which netted 77 cents more per hundred pounds than those that were sold at 9 months of age or older.

Feed and pasture formed 48 per cent of the gross cost of producing butterfat, and man labor, 32 per cent.

The group of farms with low cost of butterfat production had larger herds, fed less feed per cow, expended less labor per cow, but had the same average butterfat production per cow as the group with high costs of production.

Bulls received 26 per cent as much concentrates by weight as cows and 20 per cent more roughage.

Heifers consumed only a sixth of the concentrates fed to cows and nine-tenths as much roughage.

On an average for 123 calves, 1117 pounds of whole milk and 83 pounds of skimmilk were fed to produce a veal calf weighing 185 pounds.

Feed and pasture formed 75 per cent of the total cost of beef production.

The average sheep consumed about 75 pounds of concentrates and 354 pounds of roughage annually, besides being on pasture 242 days.

In this group of farms, 73 per cent of the sheep receipts was from the sale of mutton.

The group of farms that had the least cost per dollar of receipts raised 113 lambs per hundred ewes, as compared to 72 in the group with highest cost. There was but little variation in the average weights per fleece in these groups.

The annual cost of keeping a hundred chickens varied from $129.29 to $381.57 on the different farms.

Egg receipts were 69 per cent of the total returns for chickens.

Egg production varied from 52 to 152 eggs per hen annually.

Feed formed 51 per cent of the total cost of the poultry enterprise and labor 30 per cent. The variation in these items, together with variation in egg production, had the major effect on the returns above cost.

Sheep made the greatest return above cost but furnished less than 3 per cent of the farm's gross receipts.

Beef cattle returns did not equal costs, and the returns for dairy products, hogs, and poultry were only 8 or 9 cents above each dollar of cost.

Profits are due to the spread between cost of production and sale value. The cost elements of livestock production are more nearly under the control of the operator than is the sale price. Reduce these cost items and the spread will increase.

APPENDIX

METHODS USED IN COMPUTING COSTS

In this study, cost items have been given in material amounts, as well as values, in so far as possible, so that they may be made applicable to future conditions with changed prices. Such cost factors as veterinary services, buildings, equipment, overhead, taxes, insurance, and interest can only be expressed in money value.

Feed and pasture.—Feed is the largest single item in the cost of producing livestock. Home-grown feeds were valued at the local farm market prices for the month during which they were fed. Corn hogged down or fed unhusked in the fodder was valued at the price of crib corn, less the cost of husking and cribbing. Purchased feeds were listed at the price paid, and the time required for hauling them to the farm was added to the labor account. Pasture charges were arrived at by charging prevailing rental rates per animal-unit-month for the time they were in pasture. This rate was modified according to the abundance or scarcity of edible grass and in proportion to the amount of other feed received.

For the purposes of this study, an animal unit has been considered as the equivalent of 1 horse, 2 colts, 1 cow, 1 bull, 2 yearlings, 3 calves, 5 sows, an increase of 1400 pounds liveweight of pork, 7 to 10 sheep, or 100 chickens.

Man labor and horse work.—The rate per hour of man labor is a combination of hired labor and that of the operator. The cost of hired labor included the value of all considerations, such as use of a tenant house, milk, meat, board, etc., as well as cash received. To this was added the operator's labor, estimated at 30 cents per hour. The resulting total was divided by the total of the combined number of hours of labor performed by the operator and hired workers, which gave an average rate for all work performed on that farm for a certain year.

A separate rate for horse work was computed for each farm. This rate was obtained by dividing the total cost of keeping the horses on the farm by the total number of hours of horse work done on the farm. The cost of keeping horses included feed, pasture, bedding, veterinary services, use of stable, harness and other equipment, interest, taxes, insurance, shoeing, depreciation on horses, and any other items of a similar nature.

The feed cost of keeping a horse averaged $61.22 annually. The amounts of grain and roughage fed are given in Table 25. When man labor and other costs were added, the total yearly cost

was $109.49 per horse. Allowing $6.90 credit for manure, the net cost per horse averaged $102.59 per year. The work horses on these farms worked an average of 867 hours per year at a cost of almost 12 cents per hour.

TABLE 25.—Horses: Average Cost of Maintenance per Head and Cost per Hour of Work on 23 Farms, 1926-1928

Item	Amount	Value	
		Per unit	Total
Cost per head:		*Dol.*	*Dol.*
Corn	18.6 bu.	0.80 per bu.	14.94
Oats	29.2 bu.	0.43 per bu.	12.48
Barley	0.3 bu.	0.64 per bu.	0.22
Hay	3451 lb.	10.32 per ton	17.81
Stover	2066 lb.	2.18 per ton	2.26
Silage	160 lb.	5.00 per ton	0.40
Salt			0.46
Total feed			61.22
Bedding, straw	1975 lb.	1.61 per ton	1.59
Man labor	91 hr.	0.29 per hr.	26.01
Building charges			7.99
Harness, etc.			4.41
Interest at 5 per cent			4.08
Depreciation			2.06
Taxes and insurance			1.13
Shoeing			1.61
Veterinarian			0.54
Miscellaneous			0.44
Total cost			109.49
Credit:			
Manure	6.9 ton		6.90
Net cost per horse			102.59
Hours of work, annually per horse	867 hr.		
Cost per hour of horse work			0.118

Other cost factors.—Charges for the use of buildings and equipment include taxes, insurance, depreciation, interest, repairs, upkeep, and the like, as well as cash and labor costs on the same. The total building charge was apportioned among the various uses of the building. In a like manner, the equipment charges were allotted to the various enterprises which benefited thereby.

Taxes, as they appear in the tables, are only that portion of chattel taxes prorated to livestock. A portion of the real estate taxes enters into the building charges and, consequently, becomes a small part of the equipment charge and horse-work cost.

Interest on livestock at the rate of 5 per cent is listed as a separate item. It has been included in this cost study so that comparative costs of livestock enterprises could be secured.

Overhead charges consist of general farm expenses, which cannot be allotted directly to any enterprise. They include such items as the use of an automobile for general farm business, upkeep and repairs on fences, ditching, mowing weeds along fences and around the farmstead, interest and taxes on land in roads, lanes, and farmstead, expenses for miscellaneous equipment and small tools, telephone, and other miscellaneous expenses.[4]

Miscellaneous and special cost items will be explained as they appear in the enterprise costs.

In the following tables are given some detailed data relative to material presented in the text.

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[4]For further information on overhead charges see Ohio Agricultural Experiment Station Bulletin 481, *Some Factors Causing Variations in Crop Production Costs.*

TABLE 26.—Pork: Variations in Cost of Production, by Farms, 1926-1928

Farm	Total pork produced	Cost per 100 pounds										
		Feed	Pasture	Man labor	Horse work	Veterinary	Buildings	Equipment	Overhead	Taxes, insurance	Interest	Total
	Lb.	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*
17	3,120	4.60	0.40	1.34	.....	.....	.....	0.14	0.21	0.03	0.25	6.97
2	75,935	5.60	.24	0.66	0.07	0.18	0.25	.10	.17	.04	.20	7.51
22	19,053	5.86	.25	0.78	.01	.09	.12	.12	.36	.04	.22	7.85
14	42,944	5.50	.33	1.14	.06	.13	.22	.09	.48	.05	.22	8.22
18	35,484	6.31	.28	0.84	.07	.13	.18	.05	.24	.07	.25	8.42
4	55,113	5.60	.37	0.76	.09	.17	.55	.07	.61	.05	.23	8.50
1	82,997	6.21	.37	0.81	.06	.23	.22	.13	.16	.06	.28	8.53
3	73,931	6.43	.33	0.63	.04	.07	.41	.08	.32	.02	.26	8.59
11	48,385	6.42	.25	1.00	.07	.....	.16	.05	.54	.04	.21	8.74
20	25,829	5.97	.45	0.98	.07	.22	.19	.03	.46	.11	.28	8.76
12	44,023	5.88	.36	1.36	.03	.....	.17	.09	.57	.06	.24	8.76
13	30,811	6.16	.44	1.03	.02	.03	.29	.05	.53	.05	.23	8.83
5	42,985	5.74	.27	1.38	.08	.17	.63	.15	.23	.07	.23	8.95
9	38,553	6.49	.40	0.99	.06	.07	.08	.05	.39	.16	.30	9.09
16	26,441	6.75	.40	1.04	.04	.06	.21	.08	.30	.06	.26	9.20
10	27,125	6.71	.32	1.13	.06	.07	.10	.04	.58	.04	.21	9.26
19	67,953	5.51	.27	1.46	.09	.12	.45	.25	.98	.05	.22	9.40
21	33,279	5.74	.36	1.59	.09	.07	.24	.15	.95	.06	.23	9.48
7	14,295	7.50	.30	0.93	.06	.01	.35	.13	.35	.05	.21	9.89
6	42,637	7.02	.28	1.37	.06	.10	.33	.17	.38	.06	.22	9.99
8	26,350	7.04	.50	1.40	.09	.27	.42	.16	.54	.05	.23	10.70
23	22,418	7.17	.21	1.53	.16	.21	.42	.21	.66	.08	.23	10.88
15	9,512	8.06	.43	1.68	.03	.....	.54	.21	.65	.07	.36	12.03
Average	889,173	6.16	0.33	1.05	0.07	0.12	0.30	0.11	0.45	0.06	0.24	8.89

TABLE 27.—Variations in Annual Cost of Keeping a Cow, Production of Butterfat, and Cost per Pound, by Farms, 1926-1928

Farm	Size of herd	Annual cost per cow													Butterfat	
		Feed and pasture	Straw bedding	Man labor	Building charge	Equipment charge	Interest on cow	Taxes, insurance	Bull service	Other*	Depreciation on cows	Gross cost	Credits†	Net cost	Amount per cow	Cost per pound
	No.	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Lb.*	*Dol.*
3	6.7	49.25	1.19	27.37	7.29	1.95	2.80	0.25	2.29	3.57	.....	96.95	33.38	62.58	221	0.28
16	5.6	55.65	1.21	18.97	5.35	3.02	3.99	0.56	2.02	3.51	.....	94.28	32.20	62.08	196	.32
9	7.3	50.18	0.94	36.93	2.73	2.11	3.62	1.53	1.23	5.50	.....	104.77	36.73	68.04	206	.33
20	2.2	75.17	2.00	33.83	9.29	2.81	3.26	1.41	0.92	7.66	.....	136.35	29.78	106.57	292	.37
10	4.8	50.58	1.44	33.68	2.88	2.05	3.89	0.81	0.31	8.18	2.58	106.40	27.45	78.95	213	.37
18	6.7	58.49	0.74	27.29	5.55	2.05	3.04	0.89	5.65	3.43	.....	107.13	29.55	77.57	208	.37
7	5.3	51.33	1.97	46.34	5.55	1.97	3.28	1.18	.....	6.60	.....	118.22	32.14	86.08	227	.38
11	3.7	51.51	1.14	42.58	5.84	6.69	3.50	0.78	5.20	6.56	.....	123.80	34.49	89.31	231	.39
12	7.0	54.90	1.22	45.25	2.90	2.18	3.54	1.13	0.38	7.70	1.15	120.35	30.23	90.12	232	.39
17	1.9	39.35	1.57	37.89	31.28	10.89	3.01	0.58	0.52	2.57	7.33	134.98	29.49	105.49	256	.41
2	2.9	94.47	2.48	51.36	4.31	5.74	4.91	1.07	.....	7.31	9.51	181.16	37.73	143.43	339	.42
1	4.0	61.44	1.75	52.34	2.04	1.64	3.69	0.67	7.17	2.62	0.13	133.49	29.49	104.00	241	.43
5	3.4	70.32	1.85	47.54	14.72	5.48	3.95	0.75	.....	3.83	.....	148.44	36.47	111.96	250	.45
8	3.6	43.44	1.13	34.81	13.64	3.91	3.63	1.01	0.37	7.80	9.25	118.99	26.10	92.89	203	.46
19	6.3	72.85	1.61	54.47	6.03	7.11	3.56	1.02	0.90	12.96	0.23	160.74	33.55	127.19	277	.46
4	5.3	45.20	0.77	25.41	13.38	1.87	2.91	0.92	9.97	4.53	.....	104.96	21.74	83.22	181	.46
21	4.6	63.37	1.16	45.31	5.43	5.75	3.29	1.00	1.35	11.82	.....	138.48	32.98	105.50	224	.47
22	3.3	78.88	1.18	38.06	4.81	5.30	3.21	0.67	0.46	4.63	2.64	139.84	26.79	113.05	233	.48
15	6.3	20.43	0.95	42.64	12.87	2.54	2.37	0.42	.....	2.17	8.37	92.76	18.23	74.53	134	.56
23	2.7	64.49	1.34	71.03	14.54	3.65	3.08	0.60	1.98	9.30	13.39	183.40	29.61	153.79	270	.57
14	3.0	79.83	1.42	40.53	7.72	3.05	3.44	0.81	0.72	6.28	.....	143.80	25.88	117.92	206	.57
Average.	4.7	57.96	1.28	39.00	6.75	3.49	3.44	0.88	2.26	6.25*	1.52	122.83	30.95†	91.88	225	0.41

*Horse labor averaged 74 cents per cow, veterinary and medicine 40 cents, and overhead charges $5.11 per cow.
†Credits include an average of $6.73 for manure, $16.00 for skimmilk, $5.49 for calf, and $2.73 appreciation on cows.

TABLE 28.—Average Cost of Keeping a Cow a Year and Cost of Producing Milk from a Herd of 22 Cows, 1926-1928

Item	Annually per cow	
	Amount	Value
Cost factors:	*Lb.*	*Dol.*
Feed:		
Corn	104	1.28
Oats	732	10.85
Barley	103	1.10
Oats and barley mixture	480	6.37
Prepared dairy feeds	1657	44.32
Salt and minerals	39	0.32
Ensilage	8528	21.32
Stover	558	0.51
Legume hay	3449	25.37
Pasture	161 days	7.71
Total feed and pasture		119.25
Straw bedding	1878	3.78
Man labor	189 hr.	53.52
Horse work		0.82
Building charge		9.69
Equipment charge		8.67
Taxes, insurance		0.44
Bull service		3.38
Overhead		15.04
Veterinary, medicine		1.67
Interest on cow at 5 per cent		3.85
Total annual cost per cow		220.11
Credits annually per cow:		
Manure	10.7 ton	10.73
Calf	0.9 calf	5.26
Appreciation on cow		4.93
Total credits		20.92
Net cost of milk		199.19
Production per cow, 3.0 per cent milk	9124 lb.	
Cost per 100 pounds milk at the farm		2.18
Cost per quart of milk*		0.047

*Marketing and distribution costs not included.

TABLE 29.—Sheep: Variations in Cost of Producing Wool and Mutton and Cost per Dollar Returns, by Farms, 1926-1928

Farm	Average size of flock	Per mature sheep or equivalent, annually								Cost per dollar returns
		Feed	Pasture	Man labor		Other costs	Total cost	Manure credit	Net cost of mutton and wool	
				Amt.	Value					
	No.	*Dol.*	*Dol.*	*Hr.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*
1.....	28.4	2.93	2.25	5.7	1.57	1.68	8.43	0.98	7.45	0.42
7.....	22.0	0.34	2.32	3.8	1.30	1.51	5.47	0.91	4.56	0.52
11.....	25.0	2.79	2.00	5.4	1.67	2.42	8.88	1.17	7.71	0.66
9.....	30.9	1.23	2.46	4.1	1.14	1.84	6.67	0.77	5.90	0.70
14.....	8.3	1.86	2.90	9.6	2.87	2.05	9.68	0.52	9.16	0.71
5.....	12.9	3.80	1.86	19.5	5.20	1.44	12.30	1.48	10.82	0.74
3.....	25.1	1.55	2.39	2.7	0.70	1.89	6.53	0.97	5.56	0.81
19.....	24.5	2.51	2.46	10.2	2.84	3.40	11.21	1.00	10.21	0.94
12.....	11.1	0.61	2.54	8.1	2.42	1.71	7.28	0.99	6.29	1.01
Av...	21.5	2.01	2.35	6.2	1.77	2.12	8.25	0.96	7.29	0.67

TABLE 30.—Poultry: Variations in Items of Annual Cost and Returns per 100 Chickens, by Farms, 1926-1928

Farm number	Average size of flock*	Annual cost per 100 chickens												Annual returns per 100 chickens	
		Feed	Labor		Horse work	Building charge	Equipment charge	Interest	Taxes, insurance	Overhead	Miscellaneous	Total	Manure credit	Net cost of meat and eggs	Total	Above cost
			Amount	Value												
	No.	*Dol.*	*Hr.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*	*Dol.*
7.....	170	72.47	215.6	65.50	0.14	8.00	0.05	2.98	1.07	13.58	6.62	170.41	6.38	164.03	305.06	141.03
8.....	341	121.70	111.7	33.52	1.08	7.73	1.57	4.38	1.04	15.94	1.70	188.66	6.47	182.19	264.02	81.83
20.....	88	81.34	176.0	52.32	.....	22.61	2.94	5.23	1.84	11.81	3.00	181.09	4.98	176.11	235.71	59.60
12.....	218	63.85	158.3	47.56	0.03	14.53	3.31	5.53	1.46	10.79	8.36	155.40	6.12	149.28	205.56	56.28
2.....	197	122.76	232.0	73.15	0.69	7.28	8.02	3.80	0.82	5.71	22.48	244.70	5.96	238.74	287.73	48.99
16.....	204	76.01	116.2	33.58	.....	17.12	1.43	4.42	0.79	5.40	5.98	144.73	8.15	136.58	182.40	45.82
18.....	161	108.44	148.1	44.50	0.21	9.08	0.39	6.19	1.59	7.96	9.54	187.90	4.02	183.88	222.32	38.44
17.....	59	75.52	183.1	54.07	.....	30.92	6.98	7.64	1.47	5.29	21.31	203.20	4.05	199.15	236.67	37.52
11.....	183	167.14	283.7	83.83	0.82	17.19	7.14	4.56	1.20	17.45	16.69	316.02	8.21	307.81	344.57	36.76
13.....	109	85.97	160.8	48.21	.....	19.76	0.02	5.00	0.94	10.39	.....	170.29	4.37	165.92	200.92	35.00
21.....	107	84.35	213.4	64.03	0.62	23.04	5.13	4.71	1.58	21.15	2.35	206.96	8.87	198.09	232.03	33.94
1.....	202	92.01	338.8	89.63	.....	5.24	.....	4.76	0.95	3.55	0.53	196.67	7.61	189.06	220.85	31.79
3.....	243	104.97	100.5	26.70	0.52	10.14	3.74	4.18	0.49	7.57	13.31	171.62	6.64	164.98	196.43	31.45
10.....	127	91.06	204.3	61.30	.....	12.37	3.52	5.24	1.09	14.36	1.85	190.79	5.76	185.03	208.50	23.47
5.....	252	76.75	166.9	45.54	0.30	5.22	2.57	4.02	0.82	3.56	.....	138.78	9.39	129.29	152.33	23.04
9.....	131	90.34	227.8	65.32	0.45	12.19	0.48	5.79	2.51	5.91	4.28	187.27	5.38	181.89	191.31	9.42
6.....	198	119.51	260.9	75.04	0.08	8.03	9.41	4.37	0.50	9.99	6.58	233.51	10.86	222.65	217.34	-5.31
15.....	284	83.24	394.2	114.98	0.85	13.28	4.57	4.86	0.87	8.55	5.31	236.51	7.68	228.83	222.29	-6.54
14.....	228	223.71	260.3	77.74	0.40	18.58	6.20	5.23	1.53	15.77	11.13	360.29	3.60	356.69	326.06	— 30.63
23.....	161	94.70	336.8	97.19	.....	27.88	10.39	4.22	0.87	14.37	13.39	263.01	5.00	258.01	221.35	— 36.66
22.....	159	107.35	185.0	55.75	.....	12.88	1.44	4.42	0.91	5.46	3.90	192.11	5.30	186.81	138.59	— 48.22
4.....	126	69.20	259.0	73.09	0.29	11.67	7.27	4.15	1.09	6.45	2.15	175.36	6.20	169.16	117.92	— 51.24
19.....	213	149.34	516.9	144.06	2.45	23.01	19.03	4.98	1.58	28.70	15.25	388.40	6.83	381.57	273.60	—107.97
Av...	186	110.00	222.8	64.31	0.49	13.21	4.64	4.71	1.13	11.23	7.38	217.10	6.74	210.36	229.20	18.84

*Size of flock was computed by adding together the yearly average number of mature hens and roosters and 40 per cent of the yearly average number of young chickens under 6 months of age.

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